## Remarks

Reconsideration of the subject application is requested in view of the remarks below.

Claims 1-11 and 13 are pending. In this paper, none of the pending claims is amended.

The status of claims 3-5 as being free of the prior art of record is noted with thanks.

The pending claims stand rejected for alleged anticipation (35 U.S.C. §102(b)) by Okino. This rejection is traversed.

Independent claim 1 is directed to charged-particle-beam (CPB) optical systems of a CPB microlithography apparatus. The subject CPB optical system requires an illumination-optical system as set forth in the claim and a projection-optical system situated downstream of the illumination-optical system. The projection-optical system comprises a first projection lens situated axially closer to the reticle and having a back focal plane, a second projection lens situated axially closer to the substrate, and a cutoff-plate assembly situated between the reticle and the back focal plane, the cutoff-plate assembly defining an aperture configured to block downstream propagation of at least 90% of the patterned beam scattered from the high-scattering regions of the reticle. An exemplary cutoff-plate assembly is shown in FIG. 1(A). Note the position of the back focal plane. Note also the position of the cutoff-plate assembly, which is situated upstream of the back focal plane, thereby placing the cutoff-plate assembly between the reticle and the back focal plane.

The Office action contends that, in Okino, a cutoff-plate assembly is located between the reticle and the back focal plane as claimed. This is incorrect.

Turning to FIG. 1 of Okino, the projection-optical system comprises the first projection lens 12 and the second projection lens 14. Col. 6, line 66 to col. 7, line 1. The reticle is item 10 (col. 6, line 17), and the back focal plane of the first projection lens is at the crossover C.O.2., which also is the location of the cutoff-plate (contrast aperture) 17, as clearly shown in FIG. 1. See also col. 7, lines 16-21; col. 9, lines 11-12. Okino neither discloses nor suggests any other possible location of the contrast aperture 17.

In Okino, since the cutoff plate (contrast aperture) 17 is located at the back focal plane, it cannot be located between the back focal plane and the reticle. Therefore, Okino does not, and cannot, disclose or suggest the combination of features recited in claim 1.

Claim 7 depends from claim 1 and is properly allowable for all the reasons discussed above regarding claim 1. Also, claim 7, by adding at least one feature to the combination recited in claim 1, presents an independently patentable combination of features.

Independent claim 8 is directed to a projection-optical system of a CPB microlithography apparatus. The projection-optical system comprises a first projection lens situated axially closer to the reticle and having a back focal plane, a second projection lens situated axially closer to the substrate, and a cutoff-plate assembly situated between the reticle and the back focal plane. The cutoff-plate assembly defines an aperture configured to block downstream propagation of at least 90 % of charged particles of a charged particle beam scattered from the high-scattering regions of the reticle.

As discussed above regarding claim 1, in Okino since the cutoff plate (contrast aperture) 17 is located at the back focal plane, it cannot be located between the back focal plane and the reticle as instantly claimed. Therefore, Okino does not, and cannot, disclose or suggest the combination of features recited in claim 8.

Independent claim 9 is directed to a CPB optical system in a CPB microlithography apparatus. The CPB optical system comprises an illumination-optical system and a projection-optical system. The projection-optical system comprises a first projection lens situated axially closer to the reticle and having a back focal plane, a second projection lens situated axially closer to the substrate, and a cutoff-plate assembly situated between the reticle and the back focal plane. The cutoff-plate assembly defines an aperture configured to block downstream propagation of at least 90 % of charged particles of a charged particle beam scattered from the high-scattering regions of the reticle.

As discussed above regarding claims 1 and 8, in Okino since the cutoff plate (contrast aperture) 17 is located at the back focal plane, it cannot be located between the back focal plane and the reticle. Therefore, Okino does not, and cannot, disclose or suggest the combination of features recited in claim 9.

Independent claim 10 is directed to a CPB microlithography method that comprises, *inter alia*, directing the patterned beam through a projection-lens system to a selected corresponding region on the sensitive substrate. The particular projection-lens system includes a first projection lens situated downstream of the reticle and having a back focal plane, and a second projection lens situated downstream of the first projection lens. As the patterned beam is directed through

the projection-optical system, downstream propagation of at least 90% of the charged particles that were scattered by passage through the high-scattering portion of the reticle is blocked. The block is performed at a location between the reticle and the back focal plane.

As discussed above regarding claims 1, 8, and 9, in Okino since the cutoff plate (contrast aperture) 17 is located at the back focal plane, it cannot perform a block between the reticle and the back focal plane. Therefore, Okino does not, and cannot, disclose or suggest the combination of features recited in claim 10.

Claim 13 depends from claim 10 and is allowable for all the reasons discussed above pertaining to claim 10.

Claim 6 stands rejected for alleged obviousness from Okino. This rejection is traversed.

Claim 6 depends from claim 1 and is properly allowable over Okino for all the reasons discussed above regarding claim 1, and for the additional reason that claim 6, by adding at least one feature to the combination recited in claim 1, presents an independently patentable combination of features.

All the pending claims are properly allowable, and early action to such end is requested.

Applicants have a right to an interview at this stage of prosecution. If any issues remain unresolved after consideration of the contents of this paper, the examiner is requested to contact the undersigned to schedule a telephonic interview. Any inaction by the examiner to make such contact, followed by issuance of a final action, will be regarded as an acquiescence by the examiner to grant an interview as a matter of right after the final action.

Respectfully submitted,

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